

# NEW GAS-BARRIER THERMOPLASTIC FILM AND SUBSTRATE/FILM COMPOSITE MATERIAL

## ABSTRACT

- A gas-barrier multilayer film comprising at least an outer heat-sealable polyolefin layer, a  
5 core gas-barrier layer comprising one or more of EVOH and/or polyamides, and an outer  
bonding layer comprising one or more styrene-based polymers, characterized in that
- a) at least 35 percent by weight, preferably at least 38 percent by weight and even  
more preferably at least 40 percent by weight of the overall film is of styrene-based  
polymers,
  - 10 b) at least part of these “styrene-based polymers” are in the form of modified styrene-  
based polymers, and
  - c) said modified styrene-based polymers are present in a ratio, with respect to the  
weight of the gas-barrier resin of the core layer, of at least 0.1 : 1, preferably at least  
0.3 : 1, and even more preferably at least 0.5 : 1.
- 15 The use of the new gas-barrier film as liner in the manufacture of a polystyrene/film  
composite allows to reclaim the entire scrap obtained in the overall process in the polystyrene  
substrate still obtaining composites with mechanical properties and packaging performances  
comparable to those of the original composites.